Actinastrum hantzschii var. *subtile*

Wołoszyńska 1911

Most likely ID: n.a.

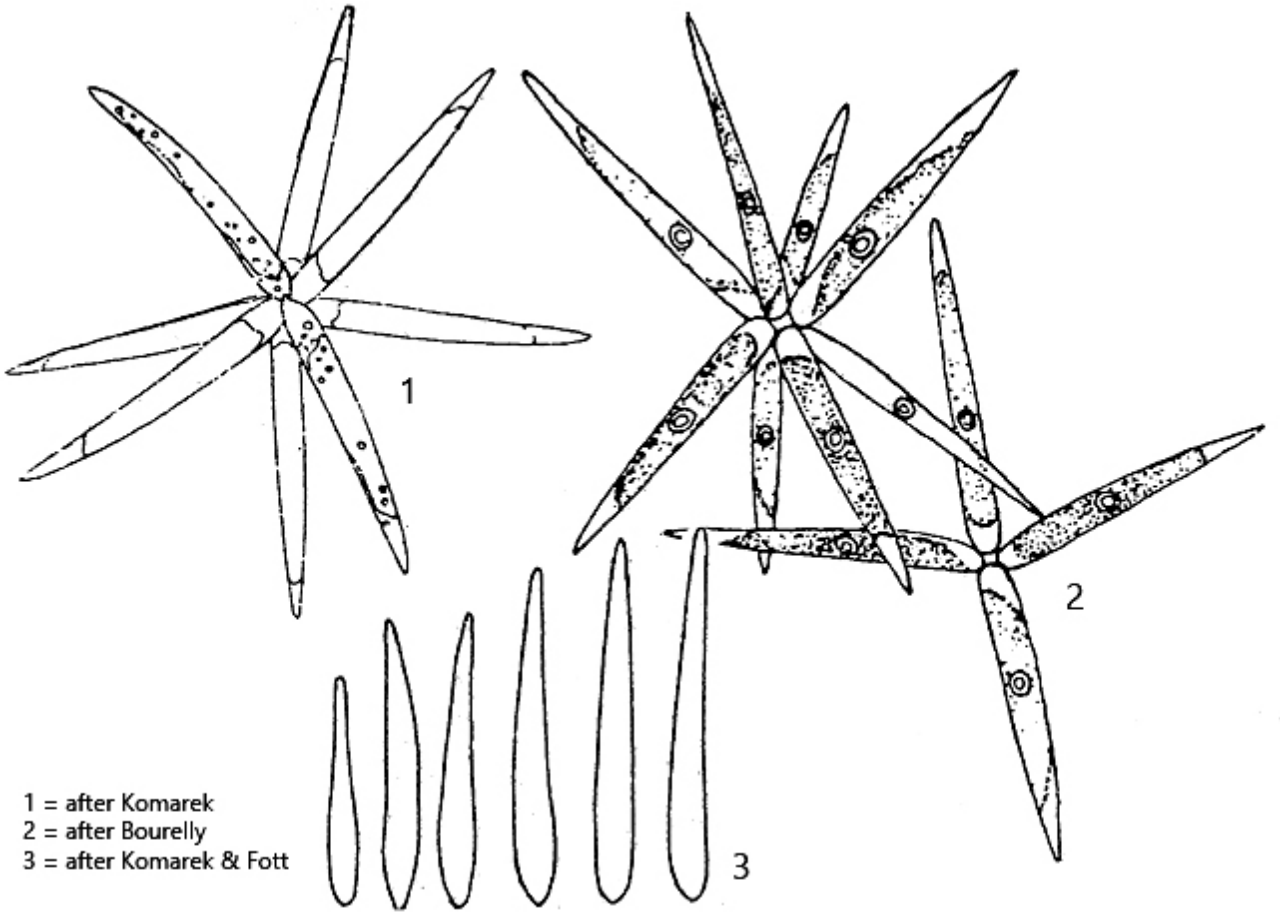
Synonym: n.a.

Sampling location: Oder (plankton)

Phylogenetic tree: *Actinastrum hantzschii* var. *subtile*

Diagnosis:

- three-dimensional, star-shaped colonies
- cells radially arranged, connected via cell poles
- cells club-shaped or spindle-shaped, distal ends tapered and rounded
- length (of cells) 12–36 µm
- one parietal chloroplast
- one pyrenoid
- ends of cell transparent
- nucleus near connected cell pole



Actinastrum hantzschii var. subtile

I found *Actinatrum hantzschii* var. *subtile* in the plankton of the Oder in May 2026. In the samples, the star-shaped colonies were easy to recognize. The colonies usually formed larger aggregates of about 5–10 colonies.

The individual cells of the colonies are somewhat club-shaped. The cells are centrally connected to each other with the thickened end (s. fig. 3). Towards the distal end, the cells taper and are narrowly rounded at the end. The cells are often somewhat curved or slightly irregularly shaped.

The chloroplast lines only the middle part of the cells. The thickened end and the tip of the cells always remain transparent. In the center of the chloroplast, there is a single pyrenoid (s. fig. 4 a-c). The cell nucleus is located near the thickened end of the cell (s. fig. 4 a-c). The cells in my population were between 20–33 µm long. Accordingly, the colonies had a diameter of about 40–60 µm. Even with coverslip pressure, the cells could not be separated from each other.

Actinastrum hantzschii var. *subtile* is considered an indicator alga for highly eutrophic waters (Wolf et al., 2002). This fits with the fact that the Oder is considered a highly eutrophic river due to inputs from agriculture and adjacent industrial operations.

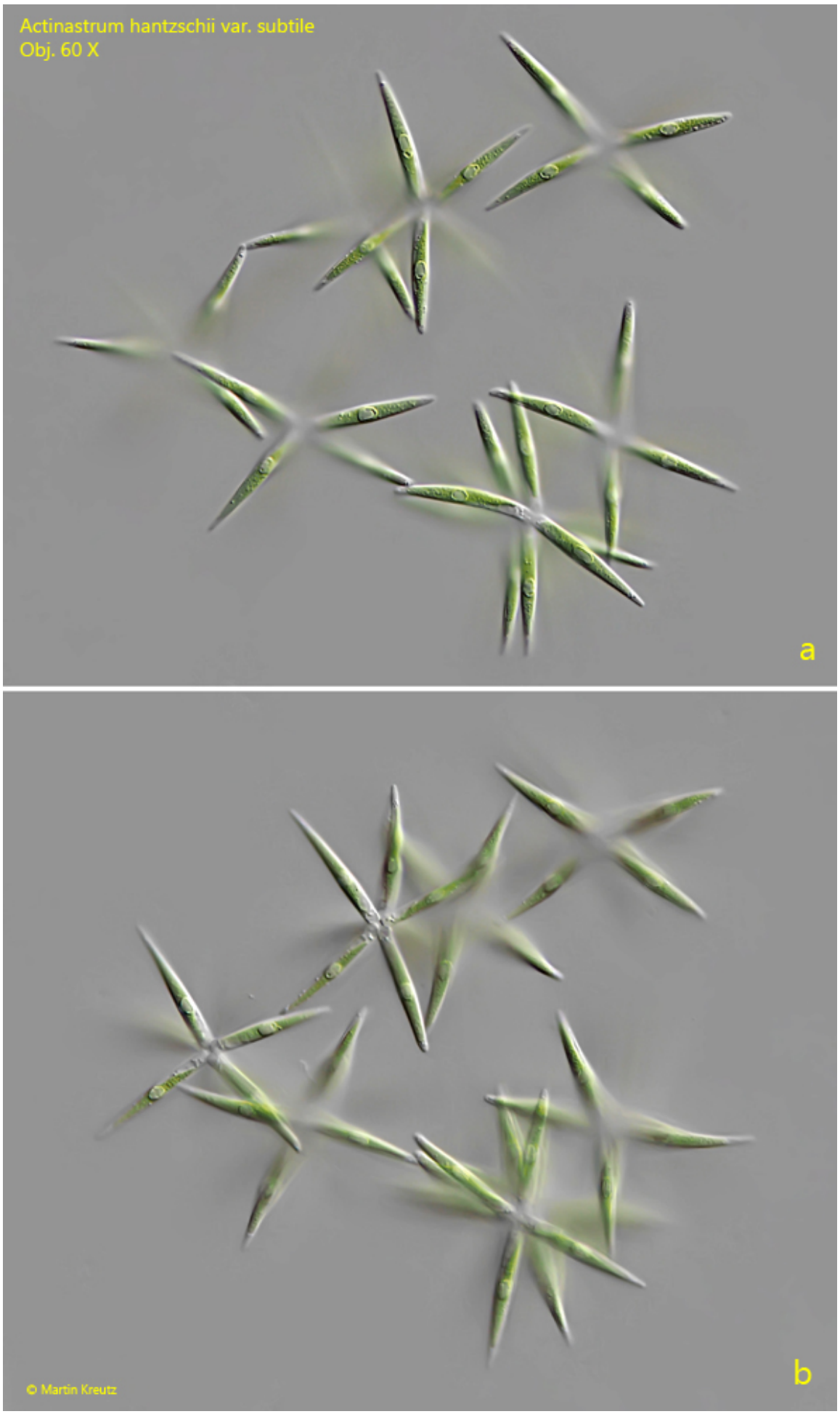

Actinastrum hantzschii var. subtile
Obj. 60 X
a
b
© Martin Kreutz

Fig. 1 a-b: *Actinastrum hantzschii* var. *subtile*. L = 24–30 µm (of cells). Two focal planes of an acculumation of star-shaped colonies. Each colonies consists of 6–8 cell. Obj. 60 X.

Fig. 2: *Actinastrum hantzschii* var. *subtile*. L = 28–31 µm (of cells). A second acculumation of star-shaped colonies. Obj. 100 X.

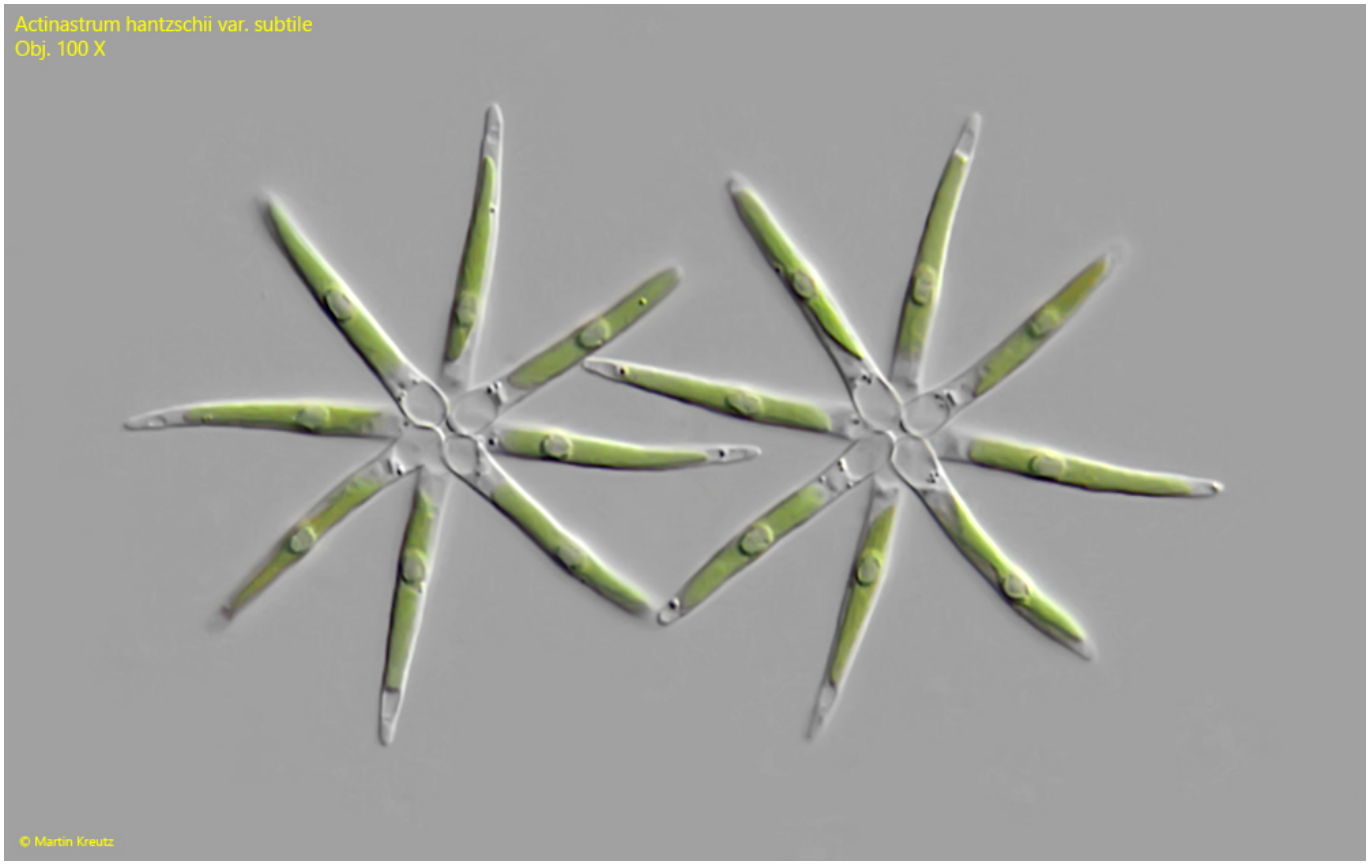


Fig. 3: *Actinastrum hantzschii* var. *subtile*. L = 21–24 µm (of cells). Two squashed colonies of each 8 cells. The cells are connected via the slightly inflated cell pole. Obj. 100 X.

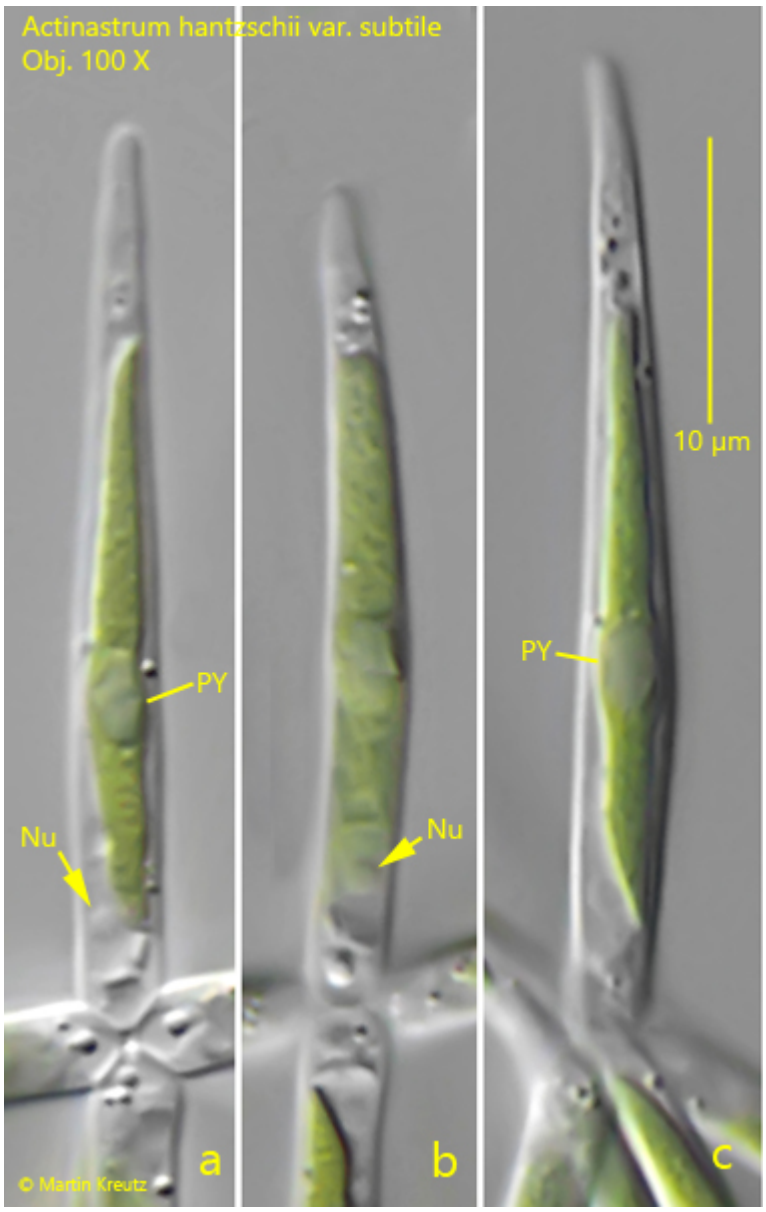


Fig. 4 a-c: *Actinastrum hantzschii* var. *subtile*. L = 30–33 µm. Three cells in detail. Nu = nucleus, PY = pyrenoid. Obj. 100 X.